

Claims

1. A current sensing unit comprising  
at least two Hall sensors (1a, 1b) arranged on a  
conductor (2),  
said Hall sensors (1a, 1b) being arranged such that  
they detect a magnetic field generated by a current flowing  
through the conductor (2) equally in absolute amount as  
well as an interference field equally in absolute amount  
and detect either the magnetic field or the interference  
field with the sign being different, respectively.
2. A current sensing unit according to claim 1,  
wherein  
the Hall sensors (1a, 1b) are arranged such that the  
magnetic field generated by the current flowing through the  
conductor (2) is detected by both Hall sensors with the  
sign being different, respectively, and  
the output signals of the Hall sensors (1a, 1b) are  
subtracted from each other.
3. A current sensing unit according to claim 1,  
wherein  
the Hall sensors (1a, 1b) are arranged such that the  
magnetic field generated by the current flowing through the  
conductor (2) is detected by both Hall sensors with the  
signs being equal, and  
the output signals of the Hall sensors (1a, 1b) are  
added.
4. A current sensing unit according to any of the  
preceding claims, said two Hall sensors (1a, 1b) being  
arranged such that the conductor (2) extends between the  
two Hall sensors.

5. A current sensing unit according to any of the preceding claims, comprising a shield (3) mounted around the Hall sensors (1a, 1b) and the conductor (2).

6. A current sensing unit according to any of the preceding claims, said conductor (2) being a circular conductor.

7. A current sensing unit according to any of the preceding claims, said Hall sensors (1a, 1b) having the least possible distance to each other.

8. A current sensing unit according to any of the preceding claims, said Hall sensors (1a, 1b) having the same distance to the conductor (2), respectively.

9. A current sensing unit according to claim 2, wherein a plurality of pairs of Hall sensors (11 and 21, 31 and 41) are provided, wherein the output signals of each pair are subtracted from each other by a subtractor (5, 51 52) and the resulting output signals from the pairs of Hall sensors being added by an adder (15).

10. A current sensing unit according to claim 3, wherein a plurality of pairs of Hall sensors (11 and 21, 31 and 41) are provided, wherein the output signals of each pair are added by an adder and the resulting output signals from the pairs of Hall sensors are added by an adder (15).

11. A current sensing unit according to any of the preceding claims, wherein the output signal of a Hall sensor (11, 21, 31, 41) is supplied to a temperature compensation sensor (12, 22, 32, 42).